STATE OF MAINE
DEPARTMENT OF CONSERVATION
157 HOSPITAL STREET
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0093

JOHN ELIAS BALDACCI
GOVERNOR

PATRICK K. MCGOWAN
COMMISSIONER

January 4, 2005

Gil A. Paquette
Project Manager
TRC
125 John Roberts Rd, Unity 14
South Portland, ME 04106

Re: Rare and exemplary botanical features, Bangor Hydro-Electric Company's proposed Northeast Reliability Interconnect Project.

Dear Mr. Paquette:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of December 20, 2004 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Hancock, Penobscot, and Washington Counties, Maine. Rare and unique botanical features include the habitat of rare, threatened or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there is a population of *Potamogeton confervoides* (Alga-like Pondweed), near the project site in the township of T35 MD. There are also four community types near the project site, and they include a Domed Bog Ecosystem located in T32 MD, a Kettlehole Bog-pond Ecosystem located in T32 MD, a Low Sedge-Buckbean Fen Lawn located in Baileyville, and a Raised Level Bog Ecosystem located in Baileyville. We strongly recommend that you have a qualified botanist flag off the population/communities so that any construction impacts can be limited. Someone from the Natural Areas Program staff can be hired for a fee to do a field survey of this site.

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

PHONE: (207) 287-8044
FAX: (207) 287-8040
TTY: (207) 287-2213

If someone is hired to conduct a field survey of the project area, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Toni Bingel Pied

Toni Bingel Pied
GIS Specialist/Assistant Ecologist
93 State House Station
Augusta, ME 04333-0093
207-287-8044
toni.bingel@maine.gov

Enclosures

Rare o[illegible]emplary Botanical Features in the Projec[illegible]inity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Adlumia fungosa Allegheny Vine		S1	G4	T		Wet or recently burned woods, rocky wooded slopes.
Amelanchier nantucketensis Nantucket Shadbush		S2	G3Q	T		Pine barrens, pond margins, fields, edges, and thickets.
Betula pumila Swamp Birch		S2	G5	SC		Bogs and wooded swamps.
Bidens hyperborea Estuary Bur-marigold		S3	G4	SC		Localized in fresh to brackish estuaries.
Carex adusta Swarthy Sedge		S2	G5	E		Dry, open places.
Carex bicknellii Bicknell's Sedge		S1	G5	PE		Open woods, fields, meadows in moist or dry soil
Carex bigelowii Bigelow's Sedge		S2	G5	SC		Alpine areas.
Carex oronensis Orono Sedge		S3	G2	T		Fields, meadows and clearings.

Rare & Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Carex sterilis Dioecious Sedge		S2	G4	T		Wet calcareous soils.
Carex tenuiflora Sparse-flowered Sedge		S2	G5	SC		Bogs and mossy woods or pond margins, usually higher pH
Carex vaginata Sheathed Sedge		S3	G5	SC		Circumneutral open to wooded fens.
Ceanothus americanus New Jersey Tea		S1	G5	T		Dry open woods and gravelly or rocky banks
Cedar - spruce seepage forest Evergreen Seepage Forest		S3	GNR			Forests dominated by northern white cedar on gentle slopes with seepage of cold, minerotrophic groundwater. Seepage water may be visible at the ground surface as rivulets or small, spring-fed brooks.
Ceratophyllum echinatum Prickly Hornwort		S2	G4?	SC		Quiet waters.
Clematis occidentalis Purple Clematis		S2	G5T5	SC		Rocky (often calcareous slopes) and open woods.
Crassula aquatica Pygmyweed		S2	G5	SC		Margins of pools and on fresh to tidal shores.

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Cynoglossum virginianum Northern Wild Comfrey		S1	G5T4	E		Rich, upland woods.
Cyperus squarrosus Awned Sedge		S1	G5	SC		Damp sands, silts and alluvium
Cypripedium arietinum Ram's-head Lady's-slipper		S1	G3	E		Damp or mossy woods or bogs.
Cypripedium reginae Showy Lady's-slipper		S3	G4	T		Circumneutral peatlands (often at edges) or sunlit openings of mossy woods.
Domed bog ecosystem Domed Bog		S3	GNR			Raised bogs with concentrically patterned convex surfaces and concentric patterns. Vegetation zonation reflects the nutrient gradient from raised center to edge, with vegetation adapted to nutrient poor conditions in the center and minerotrophic vegetati
Eragrostis hypnoides Teal Love Grass		SH	G5	PE		Gravelly or sandy shores
Erigeron hyssopifolius Hyssop-leaved Fleabane		S2	G5	SC		Calcareous rocks, talus and gravels.
Eriocaulon parkeri Parker's Pipewort		S3	G3	SC		Fresh to brackish tidal mud and estuaries.

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Fimbristylis autumnalis Fall Fimbry		S2	G5	T		Sandy or peaty shores and low ground
Galium labradoricum Bog Bedstraw		S2?	G5	SC		Bogs, mossy thickets, woods.
Hemlock forest Hemlock Forest		S4	G4G5			Hemlock-dominated or mixed forests of hemlock with northern hardwoods, on cool microsites throughout Maine.
Hippuris vulgaris Common Mare's-tail		S3	G5	SC		Shallow, quiet water, or seldom on mud
Houstonia longifolia Long-leaved Bluet		S2	G4G5TNI	SC		Slaty ledges or rivershore gravels, not strongly acidic.
Huperzia selago Alpine Clubmoss		S1	G5	T		Damp or mossy rocks, barrens, cold woods or bare mountains
Juncus vaseyi Vasey Rush		S1	G5?	E		Damp shores, thickets, etc.
Kettlehole bog-pond ecosystem Kettlehole Bog-pond Ecosystem		S4	GNR			Flat peatlands in glacial depressions, deeper than they are wide, formed by the melting of buried glacial ice blocks. Centers may be a floating peatland mat or open water ringed by peatland. Often occur as several kettleholes in glacial terrain.

Rare (..emplary Botanical Features in the Proje ..inity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Limosella australis Mudwort		S3	G4G5	SC		Fresh to brackish shores and wet sands.
Littorella uniflora American Shore-grass		S3	G5	SC		Sandy, gravelly, or muddy shores and margins of lakes and ponds
Lonicera oblongifolia Swamp Fly-honeysuckle		S3	G4	SC		Bogs, swampy thickets and wet woods.
Low sedge - buckbean fen lawn Low Sedge Fen		S3	GNR			Graminoid dominated sphagnum peatland community with groundwater at or just above the surface. Substrate very unstable.
Malaxis monophyllos White Adder's-mouth		S1	G5	E		Damp calcareous gravels, talus, peats, swales and fens.
Mimulus ringens var. colpophilus Estuary Monkeyflower		S2	G5T2Q	SC		Shores, meadows, and wet places
Pipewort - water lobelia aquatic bed Sandy Lake-bottom		S5	GNR			Sandy (or somewhat muddy) shallows of lakes and ponds, where sufficient light penetrates to allow growth of aquatic bed vegetation, dominated by small rosette forming plants Substrate is typically mostly mineral rather than organic components
Platanthera flava Pale Green Orchis		S2	G4T4Q	SC		Swampy woods, bottomlands, swales, and wet shores

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Poa glauca White Bluegrass		S1	G5	SC		Dry, often calcareous, rock, gravels, and shores.
Podostemum ceratophyllum Threadfoot		S2	G5	SC		On rocks and ledges in streams.
Potamogeton confervoides Alga-like Pondweed		S3	G4	SC		Acidic cold waters.
Potamogeton pulcher Spotted Pondweed		S1	G5	T		Peaty or muddy acid waters or shores.
Potamogeton vaseyi Vasey's Pondweed		S1	G4	T		Quiet muddy or calcareous waters.
Raised level bog ecosystem Raised Level Bog Ecosystem		S4	GNR			Raised (but not concentrically patterned) peatlands in basins with mostly closed drainage. Sphagnum dominates the ground surface and is the main peat constituent. Sometimes treed with Picea mariana and Larix laricina.
Sagittaria rigida Stiff Arrow-head		S1S2	G5	T		Calcareous or brackish mud or water.
Samolus valerandi Water Pimpernel		S3	G5T5	SC		Shallow water and wet soils.

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Documented within a four mile radius of the proposed Bangor Hydro-Electric Company's Northeast Reliability Interconnect Project.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
Silver maple floodplain forest Silver Maple Floodplain Forest		S3	GNR			Forests of floodplains of larger streams and river. Silver maple dominant. Soils alluvial and mineral. Soil surface may be dry during much of growing season. Variants: berms along the river.
Sorghastrum nutans Indian Grass		S1	G5	E		Dry slopes, prairies, and borders of woods.
Spiranthes lucida Shining Ladies'-tresses		S1	G5	T		Alluvial or damp rocky shores and slopes, rich damp thickets and meadows.
Sporobolus neglectus Small Dropseed		SH	G5	PE		Dry sterile soil
Subularia aquatica Water Awlwort		S2	G5	SC		Sandy or gravelly margins of lakes and slow streams
Trichophorum clintonii Clinton's Bulrush		S2	G4	SC		Dry or springy argillaceous or slaty ledges, gravel or open woods and turfy shores.
Unpatterned fen ecosystem Unpatterned Fen Ecosystem		S4	GNR			Peatlands fed by water carrying nutrients from adjacent uplands Vegetation (with a large component of sedges, grasses, low shrubs, and sphagnum) is different and often more diverse than in bogs, though patches of heath shrub dominated bog communities ma
Viola novae-angliae New England Violet		S2	G4Q	SC		Gravels, wet rocks, shores and meadows.

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (on the order of 20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SH Occurred historically in Maine, and could be rediscovered; not known to have been extirpated.

SU Possibly in peril in Maine, but status uncertain; need more information.

SX Apparently extirpated in Maine (historically occurring species for which habitat no longer exists in Maine).

Note: State Ranks determined by the Maine Natural Areas Program.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (on the order of 20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

Note: Global Ranks are determined by The Nature Conservancy.
T indicates subspecies rank, Q indicates questionable rank, HYB indicates hybrid species.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's endangered and threatened plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future, or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE POSSIBLY EXTIRPATED; Not known to currently exist in Maine; not field-verified (or documented) in Maine over the past 20 years.

FEDERAL STATUS

LE Listed as Endangered at the national level.

LT Listed as Threatened at the national level.

Please note that species names follow Flora of Maine: A Manual for Identification of Native and Naturalized Vascular Plants of Maine, Arthur Haines and Thomas F. Vining, 1998, V.F. Thomas Co., 219 Dead River Road, Bowdoin, ME 04287.

Where entries appear as binomials, all representatives (subspecies and varieties) of the species are rare in Maine; where names appear as trinomials, only that particular variety or subspecies is rare in Maine, not the species as a whole.

Visit our web site for more information on rare, threatened and endangered species!

TRC

Customer-Focused Solutions

December 20, 2004 005.0003.0100/2.0

Ms. Emily Pinkham
Maine Natural Areas Program
157 Hospital Street
State House Station #93
Augusta, ME 04333

VIA FEDEX PRIORITY
207-287-8044

Subject: **Information Request for Bangor Hydro-Electric Company's Proposed Northeast Reliability Interconnect Project**

Dear Ms. Pinkham:

TRC Environmental Corporation (TRC) and Devine Tarbell & Associates, Inc. (DTA) are currently assisting Bangor Hydro-Electric Company (BHE) in preparing state permit applications for BHE's proposed Northeast Reliability Interconnect project (NRI). The NRI is a proposed 345,000 volt (345 kilovolt [kV]) electric transmission line that will run from an existing substation in Orrington, Maine (Orrington Substation) to the U.S./Canadian border at Baileyville, Maine. The proposed transmission line and modifications to the Orrington Substation will provide a second interconnect between the two existing bulk electric transmission systems in New England and New Brunswick.

The NRI will require modifications to the existing Orrington Substation and construction of approximately 85 miles of new transmission line in Maine. Specifically, this new transmission line would originate from the existing Orrington Substation and would parallel and be immediately adjacent to the existing Maine Electric Power Company (MEPCO) transmission line and/or the Maritimes & Northeast Pipeline, L.L.C. natural gas pipeline (M&N pipeline) from the Orrington Substation, north to a point near Blackman Stream in Bradley for approximately 12 miles (new right-of-way [ROW] width ranges from 100' to 125'). At this point, the route would turn easterly/northeasterly passing through land owned and managed for commercial forest products for a distance of approximately 13.6 miles to a point where the route would join the Stud Mill Road (a privately owned timber haul road) east of Sunkhaze Stream in Myra (T32 MD) (new ROW width of 170'). From this point, the route runs northeasterly and is generally co-located with the Stud Mill Road and/or the M&N pipeline (new ROW width of 135' to 155') for the remaining approximately 59 miles where the route would cross the international border in Baileyville, Maine and would connect with a yet to be constructed, but permitted New Brunswick Power Corporation (NB Power) line to Point Lepreau, New Brunswick. The entire proposed route is shown on the attached USGS quadrangle excerpts.

125 John Roberts Road, Unit 14 • South Portland, Maine 04106
Telephone 207-772-3333 • Fax 207-772-3434

Because most of the proposed project is within or adjacent to the survey corridor investigated by BHE during previous permitting efforts associated with this project, a great deal of information regarding natural resources in the proposed construction areas has already been provided by you and other regulatory agencies. To facilitate your review effort for this new project, the enclosed project location maps summarize the natural resource information obtained from you and other regulatory agencies and from field surveys. We would appreciate it if you would review these maps and provide updated information regarding the locations of state-listed threatened and endangered plant species, unique areas and natural communities, and natural resource concerns, comments on the information we already have, or confirmation of the accuracy and completeness of our existing data. Your information will be incorporated into state and federal permit applications associated with the project and will also help form the basis for any mitigative measures that may be necessary during or after construction.

We would appreciate receiving your comments within approximately 30 days. Should you have any questions or need additional information, please do not hesitate to contact me at (207) 879-1930.

Sincerely,

TRC ENVIRONMENTAL CORPORATION

Gil Paquette (BHB)

Gil A. Paquette
Project Manager

GAP/kh
Enclosure

cc: R. McAdam, Emera (w/o attachment)
S. Sloan, BHE (w/o attachment)
J. Browne, Verrill Dana, LLP (w/o attachment)
L. Ballesteros, BHE (w/o attachment)
S. Beyer, MDEP
J. Clement, USACE
J. Pell, DOE
B. Vinokour, Argonne National Laboratory
S. Timpano, IF&W (w/o attachment)
G. Russell, USFWS (w/o attachment)
File

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TRC Environmental Corporation
400 Southborough Drive
South Portland, ME 04106
Voice: (207) 879-1930
Fax: (207) 879-9293

TRC
Customer-Focused Solutions

MEETING MINUTES

DATE: February 7, 2005; 1:00 PM

LOCATION: NAP Office Augusta, Maine

ATTENDEES: Gil Paquette (TRC Solutions)
Steve Sloan (BHE)
Art Gilman (Countryman)
Andy Cutko (MNAP)
Toni Pied (MNAP)

SUBJECT: Northeast Reliability Interconnect – Natural Communities and Rare Plants

NOTES BY: Gil A. Paquette

CC: J. Pell (DOE)
Stacie Beyer (DEP)

- Gil provided a summary of the project including the project alignment, ROW width, permitting schedule, and an overview of the rare plant and natural community methodology and field work. Gil explained the efforts of earlier surveys conducted for this project and for the Maritimes & Northeast Pipeline. Gil stated that Art had been involved on all of the surveys.

- Art explained the result of his surveys
    - Sawtelle Heath – Art explained the history of the pipeline surveys and the realignment of the proposed pipeline based on his findings to the south of the existing pipeline. Basically the pipeline was rerouted to the north to avoid a large pocket of rare plants. Along the proposed transmission line route (north of the pipeline) Art found showy lady slipper and *Carex vaginatta*. Art explained that although no surveys were conducted to the north of the proposed transmission line the plants will likely extend beyond to the north and a reroute in that direction would likely not result in avoidance. Andy stated that *Carex vaginata* was going to be down listed as a result of a number of populations being recently discovered. Andy asked about the area growing into a fir thicket after construction and crowding-out the ladyslippers. Art said that was highly unlikely because it is a cedar area. Gil explained the proposed mitigation included winter

construction with six inches of snow on the ground, no herbicide treatment after construction, and that vegetation would be selectively cut in the area to leave as much cedar as possible. Art explained that the transmission line did not cross the mapped natural communities depicted on the GIS database received from the NAP. Andy was fine with this and fine with the proposed mitigation.

- Township 21- In 1989, Art had discovered a rare plant (white adder's-mouth ,*Malaxis brachypoda*) during earlier surveys for the project. The area has since been logged and Art could not find the plant during more recent surveys in 1997, 1998, and 2003, although he knew exactly where to search.
- Burnt Land Lake – Art found a stand of red pine that appeared to fit the NAP's definition of a Red Pine Woodland. Andy explained that a Red Pine Woodland is typically sustained through burning and that this area was a Red Pine White Pine Forest which is classified as S4 [as opposed to the rare S3 classification of a Red Pine Woodland]. Andy explained that given the S4 status NAP was not concerned about the impacts. Andy added that there is a Blueberry Lichen Barren near this area that is classified as S2 but NAP is not concerned as the transmission line maintenance will help maintain this community's characteristics.
- Allen Brook – During the M&N project Art transplanted algae-like pondweed as a form of mitigation. Art surveyed this area and found a number of plants on the upstream side of the pipeline crossing. The plant was not found on the north side of the Stud mill road where the proposed transmission line is located. Gil explained that there would be no in-stream work and that herbicides would not be used within 25 feet of the tops of banks of the brook. Andy was satisfied that there would be no impacts.
- Horseback and Birch Stream Bog Area – Art explained that he did not find the mapped community along the proposed transmission line ROW. Andy was fine with the results of the survey of this area.

- Andy explained that he was comfortable with the surveys and proposed mitigation, and requested three overall management commitments:
    - Use of only winter harvesting/clearing in sensitive areas;
    - No herbicides in sensitive areas; and
    - Minimization of impact with alignment and design.

- Andy asked about a monitoring plan for the lady slippers. [Since the meeting, BHE committed to conducting monitoring at 3 and 5 years after construction.]. Gil will provide the GPS coordinates of the rare plants.